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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/740,749	12/22/2003	Shinichi Mihara	009523-0306805	3391
909	7590	09/10/2004	EXAMINER	
PILLSBURY WINTHROP, LLP			RAIZEN, DEBORAH A	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	

2873

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/740,749	Applicant(s) MIHARA, SHINICHI	
	Examiner Deborah A. Raizen	Art Unit 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-7, 21-34 and 36-44 is/are pending in the application.
- 4a) Of the above claim(s) 24-28 and 40-44 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-7, 22, 23, 29, 30, 38/(29,30), and 39/(29,30) is/are allowed.
- 6) ☒ Claim(s) 21, 32, 34, 36, and 37 is/are rejected.
- 7) ☒ Claim(s) 31, 33, 38/(21, 31-33), and 39/(21, 31, 32, 33) is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/741,000.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0404</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Invention I in the reply filed on June 14, 2004, is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 24-28 and also new claims 40-44 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on June 14, 2004.
3. In regard to new claims 40-44, the procedure detailed in MPEP §821 is followed: "All claims that the examiner holds as not being directed to the elected subject matter are withdrawn from further consideration by the examiner in accordance with 37 CFR 1.142(b)." Claims 40-44 are not readable on the elected invention because the elected invention is a zoom lens system comprising five lens groups, whereas claims 40-44 are drawn to a zoom lens system comprising four lens groups having further detailed structure that is not found in the broadest claims of the elected invention (and, incidentally, in none of the claims directed to a zoom lens system comprising five lens groups, as currently presented). As explained in the requirement for restriction, paper no. 0504, the two inventions are distinct.

Priority

4. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/741,000, filed on December 21, 2000.

Claim Objections

5. Claims 31-34 are objected to because of the following informalities: several additions and deletions made in previous amendments are still underlined or crossed out, even though the claims are not currently amended (e.g. the superscript -1 is underlined, and the apostrophe next to the number 17 is crossed out).

Also, in claim 34, line 6, "(17')" includes an apostrophe, even though the condition recited is condition (17).

Also, in claim 34, f2 is not defined.

Appropriate correction is required.

6. Claim 39 is objected to because of the following informalities: In the last line, the word "toward" is missing between "moves" and "the object side". Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

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international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 21, 32, 34, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishio (JP 5-323196, of record).

In regard to claim 21, Nishio discloses a zoom lens system (Example 6, pages 9-10, Figs. 1 and 7), which comprises, in order from an object side thereof, a first lens group having negative refracting power (L1, Figs. 1 and 7), a second lens group having positive refracting power (L2, Figs. 1 and 7), a third lens group having negative refracting power (L3, Figs. 1 and 7), a fourth lens group having positive refracting power (L4, Figs. 1 and 7) and a fifth lens group having positive refracting power (L5, Figs. 1 and 7), wherein focusing on movement of an object point is carried out at the fifth lens group (Fig. 1), and the third lens group comprises two lens components including a cemented concave lens component (surfaces R14-R16) and a negative single lens component (R12-R13), and satisfies the following condition (18):

$$0.1 < f_{31}/f_{32} < 1 \dots (18) \quad (0.64, \text{ as calculated from the parameters on page 9})$$

where f_{31} (-1.748 mm) is a focal length of the concave lens element (R14-R15) in the doublet component in the third lens group, and f_{32} (-2.725 mm) is a focal length of the negative single lens component in the third lens group.

In regard to claim 32, Nishio discloses a zoom lens system (Example 6, pages 9-10, Figs. 1 and 7), which comprises, in order from an object side thereof, a first lens group having negative refracting power (L1, Figs. 1 and 7), a second lens group having positive refracting power (L2, Figs. 1 and 7), a third lens group having negative refracting power (L3, Figs. 1 and 7), a fourth lens group having positive refracting power (L4, Figs. 1 and 7) and a fifth lens group having positive refracting power (L5, Figs. 1 and 7), wherein focusing on movement of an object

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point is carried out at the fifth lens group (Fig. 1), and the following condition is satisfied with the respect to the first and second lens groups:

$$0.7 \times 10^{-2} \text{ mm}^{-1} < \text{Hb}_{1\text{abs}} / (f_{1\text{abs}} \cdot f_2) < 6 \times 10^{-2} \text{ mm}^{-1} \quad \dots(17)$$

($3.2 \times 10^{-2} \text{ mm}^{-1}$ as calculated from the parameters on page 9)

where $f_{1\text{abs}}$ (12.50 mm) is an absolute value of a focal length of the first lens group, $\text{Hb}_{1\text{abs}}$ (2.61 mm) is an absolute value of a rear principle point position of the first lens group, and f_2 (6.50) is a focal length of the second lens group.

In regard to claim 34, Nishio discloses a zoom lens system (Example 6, pages 9-10, Figs. 1 and 7), which comprises, in order from an object side thereof, a first lens group having negative refracting power (L1, Figs. 1 and 7), a second lens group having positive refracting power (L2, Figs. 1 and 7), a third lens group having negative refracting power (L3, Figs. 1 and 7), a fourth lens group having positive refracting power (L4, Figs. 1 and 7) and a fifth lens group having positive refracting power (L5, Figs. 1 and 7), wherein focusing on movement of an object point is carried out at the fifth lens group (Fig. 1), and at least two of the following conditions (16), (17) and (18) are satisfied:

$$0.15 < \text{Hb}_{1\text{abs}} / f_{1\text{abs}} < 0.9 \quad \dots(16)$$

(0.21 as calculated from the parameters on page 9)

$$0.7 \times 10^{-2} \text{ mm}^{-1} < \text{Hb}_{1\text{abs}} / (f_{1\text{abs}} \cdot f_2) < 6 \times 10^{-2} \text{ mm}^{-1} \quad \dots(17)$$

($3.2 \times 10^{-2} \text{ mm}^{-1}$ as calculated from the parameters on page 9)

$$0.1 < f_{31}/f_{32} < 1 \quad \dots (18)$$

(0.64, as calculated from the parameters on page 9)

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where f_{1abs} (12.50 mm) is an absolute value of a focal length of the first lens group, Hb_{1abs} (2.61 mm) is an absolute value of a rear principle point position of the first lens group, and f_2 (6.50) is a focal length of the second lens group (as understood), f_{31} (-1.748 mm) is a focal length of a concave lens element (R14-R15) of a doublet component (R14-R16) in the third lens group, and f_{32} (-2.725 mm) is a focal length of a negative lens component in the third lens group..

In regard to claim 36, Nishio discloses a zoom lens system (Example 6, pages 9-10, Figs. 1 and 7), which comprises, in order from an object side thereof, a first lens group having negative refracting power (L1, Figs. 1 and 7), a second lens group having positive refracting power (L2, Figs. 1 and 7), a third lens group having negative refracting power (L3, Figs. 1 and 7), a fourth lens group having positive refracting power (L4, Figs. 1 and 7) and a fifth lens group having positive refracting power (L5, Figs. 1 and 7), wherein focusing on movement of an object point is carried out at the fifth lens group (Fig. 1), and a plurality of axially fixed optical devices are located in the rear of the fifth lens group (G and the film, represented by a vertical line, in Fig. 7).

9. Claim 36 is rejected under 35 U.S.C. 102(e) as being anticipated by Nakayama (6,285,509, of record). Nakayama discloses a zoom lens system (Example 4, cols. 10-11, Fig. 4), which comprises, in order from an object side thereof, a first lens group having negative refracting power (L1, Fig. 4), a second lens group having positive refracting power (L2), a third lens group having negative refracting power (L3), a fourth lens group having positive refracting power (L4) and a fifth lens group having positive refracting power (L5), wherein focusing on

movement of an object point is carried out at the fifth lens group (col. 5, lines 61-63), and a plurality of axially fixed optical devices are located in the rear of the fifth lens group (DP, dichroic prism, and PI, display element).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishio (JP 5-323196, of record) in view of Kohno et al. (6,118,592). As explained in the rejection above of base claim 36 under 35 U.S.C. 102(b), Nishio discloses a zoom lens according to claim 36.

However, Nishio does not disclose that the plurality of axially fixed optical devices include at least a low-pass filter and an infrared cut filter. Kohno discloses a zoom lens having a plurality of axially fixed optical devices are located in the rear of a fifth lens group that include a low-pass filter and an infrared cut filter (col. 5, lines 18-21). Kohno further teaches that such filters are required for an imaging optical system of a digital camera (col. 5, lines 18-21), which in turn has many advantages over film cameras, such as large storage capacity and ease of editing and processing. Therefore, it would have been obvious to one of ordinary skill in the art to include a low-pass filter and an infrared cut filter in the Nishio zoom lens because such filters are required for an imaging optical system of a digital camera, in which it would have been

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obvious to one of ordinary skill in the art to use the Nishio zoom lens because of the advantages of digital cameras such as large storage capacity and ease of editing and processing.

Allowable Subject Matter

12. Claims 38/(21,32) and 39/(21,32) are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims (and if the informalities in claims 32 and 39 are corrected).

The following is a statement of reasons for the indication of allowable subject matter: The prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of claims 38/(21,32) and 39/(21,32), in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper.

The prior art fails to teach a combination of all the features in claims 38/(21,32) and 39/(21,32). For example, these features include the detailed structure and conditions recited in claims 21 or 32 and also the limitation that upon zooming from the wide-angle end to the telephoto end, a spacing between the fourth lens group and an image-formation plane becomes wide, in combination with all the other limitations of the claims.

13. Claims 31, 33, 38/(31,33), and 39/(31,33) are objected to because of informalities, but would be allowable if the informalities in were corrected).

The following is an examiner's statement of reasons for allowance: The prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of claims

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31, 33, and 39/(29-31,33), in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper.

The prior art fails to teach a combination of all the features in claim 31. For example, these features include the detailed structure and condition recited, especially the limitation that upon zooming from a wide-angle end to a telephoto end of the zoom lens system, the first lens group moves to an image side of the zoom lens system, along with the recited condition regarding the ratio of parameters of the first and second lens groups, in combination with all the other limitations of the claim. Example 4 of Nakayama (6,285,509, of record) does not satisfy the condition (having a value of $0.14 \times 10^{-2} \text{ mm}^{-1}$).

The prior art fails to teach a combination of all the features in claim 33. For example, these features include the detailed structure recited, especially the limitation that upon zooming from a wide-angle end to a telephoto end of the zoom lens system, the first lens group moves to an image side of the zoom lens system, along with satisfying at least two of the three recited conditions, in combination with all the other limitations of the claim. Example 4 of Nakayama (6,285,509, of record) does not satisfy the conditions (having values for condition 16 of 0.12 and for condition 18 of 3.2).

Claims 38/(31,33) and 39/(31,33) depend on claims that have allowable subject matter and therefore have allowable subject matter as well.

14. Claims 4-7, 22, 23, 29, 30, 38/(29,30), 39/(29,30) are allowed.

The following is an examiner's statement of reasons for allowance: The prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of claims 4-

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7, 22, 23, 29, 30, 38/(29,30), 39/(29,30), in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper.

In regard to claims 4-7, see paper no. 5, mailed September 12, 2002, of the parent application 09/741,000.

The prior art fails to teach a combination of all the features in claim 22, 23, and 30. For example, these features include the detailed structure recited, especially the limitations that upon zooming from a wide-angle end to a telephoto end of the zoom lens system, the first lens group moves to an image side of the zoom lens system while the third lens group remains fixed, in combination with all the other limitations of the claims.

The prior art fails to teach a combination of all the features in claim 29. For example, these features include the detailed structure and condition recited, especially the limitation that upon zooming from a wide-angle end to a telephoto end of the zoom lens system, the first lens group moves to an image side of the zoom lens system, along with the recited condition regarding the ratio, for the first lens group, of the rear principle point position to the focal length, in combination with all the other limitations of the claim. Example 4 of Nakayama (6,285,509, of record) does not satisfy the condition (having a value of 0.12 for the ratio).

Claims 38/(29,30), 39/(29,30) depend on allowed claims and therefore have allowable subject matter as well.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah A. Raizen, Ph.D., J.D., whose telephone number is (571) 272-2336. The examiner can normally be reached on Monday-Friday, from 10:00 a.m. to 3:00 p.m. Eastern Standard Time (a part-time schedule).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached at (571) 272-2328. The USPTO central official fax number is (703) 872-9306 (please note that this number is different from the previous two numbers provided until the summer of 2003).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or at 703-305-3028 or at 703-308-6845 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: ebc@uspto.gov. Additional information is available on the Patent EBC Web site at: <http://www.uspto.gov/ebc/index.html>.

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